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(54) **Imager package substrate**

(57) An image head assembly comprising: a substrate with at least a pair of apertures formed in the substrate; an optical assembly having at least a pair of pins that mate with the apertures within the substrate, the pins to the optical assembly being fixedly secured to the apertures within the substrate; an image sensor located between the apertures covered by a cover glass above the image sensor on the optical assembly; interface means for providing an electrical connection between the substrate and the image sensor; a lens system mounted on top the cover glass; and a single element blur filter contained within the lens system. The assembly contains a single element blur filter such as a cross-pleated blur filter. The lens system is prevented from being a reverse telephoto lens system with use of a blur filter that does not require a large back focus and is instead a telephoto lens system.

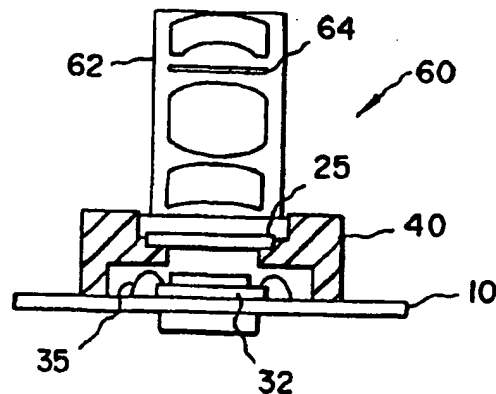


Fig. 6

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EUROPEAN SEARCH REPORT

Application Number
EP 98 20 1874

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	WO 93 22787 A (LSI LOGIC CORP ;APPLE COMPUTER (US); LYNCH BRIAN (US); GAINNEY TREV) 11 November 1993 * abstract; figures 1,2,5 * * page 17, line 16 - page 18, line 7 *	1	H01L31/0203 H01L31/0232
Y	---	2-5,8	
Y	EP 0 753 893 A (EASTMAN KODAK CO) 15 January 1997 * column 5, line 10 - line 43 * * figures 4-6 *	2,4,5	
Y	---	3,8	
Y	EP 0 736 782 A (EASTMAN KODAK CO) 9 October 1996 * abstract; figure 2 * * page 2, line 1 - line 49 *	3,8	
A	PATENT ABSTRACTS OF JAPAN vol. 012, no. 291 (E-644), 9 August 1988 & JP 63 065783 A (OLYMPUS OPTICAL CO LTD), 24 March 1988 * abstract *	1-8	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			H01L
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 16 December 1998	Examiner Visscher, E
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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The members are as contained in the European Patent Office EDP file on
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16-12-1998

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9322787 A	11-11-1993	WO 9322788 A	11-11-1993
EP 0753893 A	15-01-1997	JP 9036339 A	07-02-1997
EP 0736782 A	09-10-1996	US 5682266 A	28-10-1997
		JP 9009152 A	10-01-1997